

We Claim:

1. A method for inspecting welds between welded tubular ends, the method comprising the steps of:

arranging a series of electromagnetic acoustic  
5 transducer (EMAT) assemblies in circumferential direction adjacent to an inner and/or outer surface of at least one of the welded tubular ends; and

inducing the EMAT assemblies to transmit sequentially or simultaneously acoustic shear wave signals in  
10 different modes and angles towards the weld and to detect the shear waves reflected by and/or passing through the weld such that at least a substantial part of the weld is scanned by the EMAT assemblies;

wherein the EMAT assemblies are maintained at a  
15 substantially fixed position relative to the weld during the scanning operation.

2. The method of claim 1, wherein the EMAT assemblies comprise a ring shaped assembly of EMAT transmitters and a ring shaped assembly of EMAT receivers, which is  
20 arranged between the weld and the ring shaped assembly of EMAT transmitters.

3. The method of claim 2, wherein the EMAT assemblies comprise ring shaped assemblies of EMAT transmitter and receiver assemblies at both sides of the weld when seen  
25 in longitudinal direction of the welded tubulars.

4. The method of claim 2, wherein each of the EMAT transmitter and receiver assemblies comprises a matrix of EMAT transducers which at least partly overlap each other in a circumferential direction.

30 5. The method of claim 4, wherein the EMAT transducers of at least one matrix are stacked on top of each other

in a partially overlapping pattern in a radial direction relative to the tube wall.

6. The method of claim 4, wherein the EMAT transducers of at least one matrix are staggered in a substantially longitudinal direction relative to the tube wall.

7. The method of any preceding claim wherein the EMAT assembly is arranged on a carrier body that is arranged in the interior of at least one of the welded tubulars.

8. The method of claim 1, wherein the EMAT assemblies are arranged on a carrier sleeve which surrounds at least one of the welded tubulars and which can optionally be split into at least two sleeve segments after completion of the welding operation.

9. The method of claim 1, wherein the EMAT assemblies are operated to inspect the quality of forge welded tubulars instantly after the forge weld has been made.

10. An EMAT assembly for inspecting welds between welded tubular ends, the assembly comprising;

a series electromagnetic acoustic transducers which are in use distributed in a circumferential direction adjacent to an inner and/or outer surface of at least one of the welded tubular ends and are configured to transmit sequentially or simultaneously acoustic shear wave signals in different modes and angles towards the weld and to detect the shear waves reflected by and/or passing through the weld such that at least a substantial part of the weld is scanned by the EMAT assembly.

11. The EMAT assembly of claim 10, wherein the assembly comprises at least two longitudinally spaced ring shaped arrays of EMAT transmitters and receivers and wherein the ring shaped arrays of EMAT receivers are located between the ring shaped arrays of EMAT transmitters.